



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/870,665

06/01/2001

Alan F. Graves

8644

7590

07/01/2005

Gowling Lafleur Henderson LLP
Suite 2600
160 Elgin Street
Ottawa, ON K1P 1C3
CANADA

EXAMINER

CURS, NATHAN M

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/870,665		GRAVES ET AL.	
	Examiner		Art Unit	
	Nathan Curs		2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20, 24 and 28-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-20, 24, 28-31, 36-39 and 41-43 is/are allowed.
- 6) ☒ Claim(s) 1-9 and 32-35 is/are rejected.
- 7) ☒ Claim(s) 32 and 40 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowability Withdrawn

1. The indicated allowability of claims 1-9 is withdrawn in view of the new grounds of rejection based on Sharma et al. (hereinafter "Sharma") (US Patent No. 5717795). Rejections based on the new citations follow.

Specification

2. The disclosure is objected to because of the following informalities: "edge node" in page 7, line 22, should be "access node" in order to be consistent with the follow up statement that as a result of being provided with a wavelength to modulate, the access node doesn't require a DWDM light source.

Appropriate correction is required.

Claim Objections

3. Claims 32 and 40 are objected to because of the following informalities: lack of punctuation. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 claims modulating a wavelength of the first group of wavelengths at the first location; however this is inconsistent with claim 1 where the first group ("plurality") of wavelengths are unmodulated wavelengths.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, 6-9, 32 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Sharma (US Patent No. 5717795).

Regarding claim 1, Sharma discloses a method of optical wavelength allocation in an photonic network comprising the steps of: generating a first plurality of unmodulated optical wavelengths at a first location in the network (fig. 15, element A16 and col. 9, lines 12-32); selecting a predetermined one wavelength of the first plurality of unmodulated optical wavelengths transmitting the predetermined one wavelength to a second location (fig. 15, elements A1, C1 and λ_1 , where λ_1 is selected for transmission to node C1); and generating a second plurality of unmodulated optical wavelengths at a second location in the network with reference to the predetermined one wavelength (fig. 15, element C15 and col. 8, line 59 to col. 9, line 11, where the plurality of unmodulated wavelengths leaving C1, generated by multiplexing the remaining unmodulated wavelengths, differs from the plurality of unmodulated wavelengths entering C1 – the plurality leaving C1 doesn't have λ_1 as an unmodulated wavelength).

Regarding claim 2, Sharma discloses a method as claimed in claim 1 further comprising the steps of forming a second group of wavelengths by grouping selected second wavelengths and transmitting the second group of wavelengths to a third location in the network (fig. 15, element C15, and col. 9, lines 12-35, where the second group is λ_2 to λ_n).

Regarding claim 3, Sharma discloses a method as claimed in claim 2 further comprising the steps of modulating one wavelength of the second group of wavelengths at the third location (fig. 15, elements C2, λ_2 and element MOD of node C2) and passing the modulated one of the second group of wavelengths to the first location in the network (fig. 15, element A11 and col. 9, lines 12-32, where the wavelength modulated by the third location C2 is sent back to node A1).

Regarding claim 4, Sharma discloses a method as claimed in claim 2 further comprising the steps of modulating one wavelength of the second group of wavelengths at the third location and passing the modulated one of the second group of wavelengths to a fourth location in the network (fig. 15, elements λ_2 , MOD of node C2, and the multiplexer at C2 facing Cn).

Regarding claim 6, Sharma et al. disclose apparatus for optical wavelength allocation in an photonic network comprising: means for generating a first plurality of unmodulated optical wavelengths at a first location in the network (fig. 15, element A16 and col. 9, lines 12-32); means for selecting a predetermined one wavelength of the first plurality of optical wavelengths and means for transmitting the predetermined one wavelength to a second location (fig. 15, elements A1, C1 and λ_1 , where λ_1 is selected for transmission to node C1) for generating a second plurality of unmodulated optical wavelengths at a second location in the network with reference to the predetermined one wavelength (fig. 15, element C15 and col. 8, line 59 to col. 9, line 11, where the plurality of unmodulated wavelengths leaving C1, generated by multiplexing the remaining unmodulated wavelengths, differs from the plurality of

Art Unit: 2633

unmodulated wavelengths entering C1 – the plurality leaving C1 doesn't have λ_1 as an unmodulated wavelength).

Regarding claim 7, Sharma discloses apparatus as claimed in claim 6 further comprising means for forming a second group of wavelengths by grouping selected second wavelengths; and transmitting the second group of wavelengths to a third location in the network (fig. 15, element C15, and col. 9, lines 12-35, where the second group is λ_2 to λ_n).

Regarding claim 8, Sharma discloses apparatus as claimed in claim 7 further comprising means for modulating one wavelength of the second group of wavelengths at the third location and means for passing the modulated one of the second group of wavelengths to the first location in the network.

Regarding claim 9, Sharma discloses apparatus as claimed in claim 7 further comprising means for modulating one wavelength of the second group of wavelengths at the third location (fig. 15, elements C2, λ_2 and element MOD of node C2) and passing the modulated one of the second group of wavelengths to a fourth location in the network (fig. 15, element A11 and col. 9, lines 12-32, where the wavelength modulated by the third location C2 is sent back to node A1).

Regarding claim 32, Sharma discloses apparatus as claimed in claim 6 wherein the generating means includes a multiple λ source (fig. 15, element A16).

Regarding claim 34, Sharma discloses apparatus as claimed in claim 6 wherein the generating means includes wavelength distributed multiplexers (fig. 15, element A17).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2633

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 33 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sharma (US Patent No. 5717795).

Regarding claim 33, Sharma discloses apparatus as claimed in claim 32 and discloses that the optical wavelengths conform to a WDM scheme, but does not disclose that the wavelengths conform to a DWDM scheme. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to configure the system of Sharma for DWDM to provide the benefit of higher wavelength count for a system with several nodes (i.e. where n is a high number), since DWDM is well known in the art for achieving high channel count multi-wavelength transmission.

Regarding claim 35, Sharma discloses apparatus as claimed in claim 34 and discloses that the wavelength distributed multiplexers are WDM multiplexers, but does not disclose that the wavelength distributed multiplexers are coarse relative to a DWDM scheme. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to configure the system of Sharma for CWDM to provide the benefit of cheaper transmission components for generating wavelengths and multiplexing/demultiplexing for a system with a small number of nodes (i.e. where n is a low number), since CWDM is well known in the art for achieving cost savings, relative to DWDM, for transmission only requiring a few wavelengths.

Allowable Subject Matter


10. Claims 10-20, 24, 28-31, 36-39, and 41-43 are allowed.

Conclusion

Art Unit: 2633

11. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (571) 272-3028. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (800) 786-9199.


JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600